

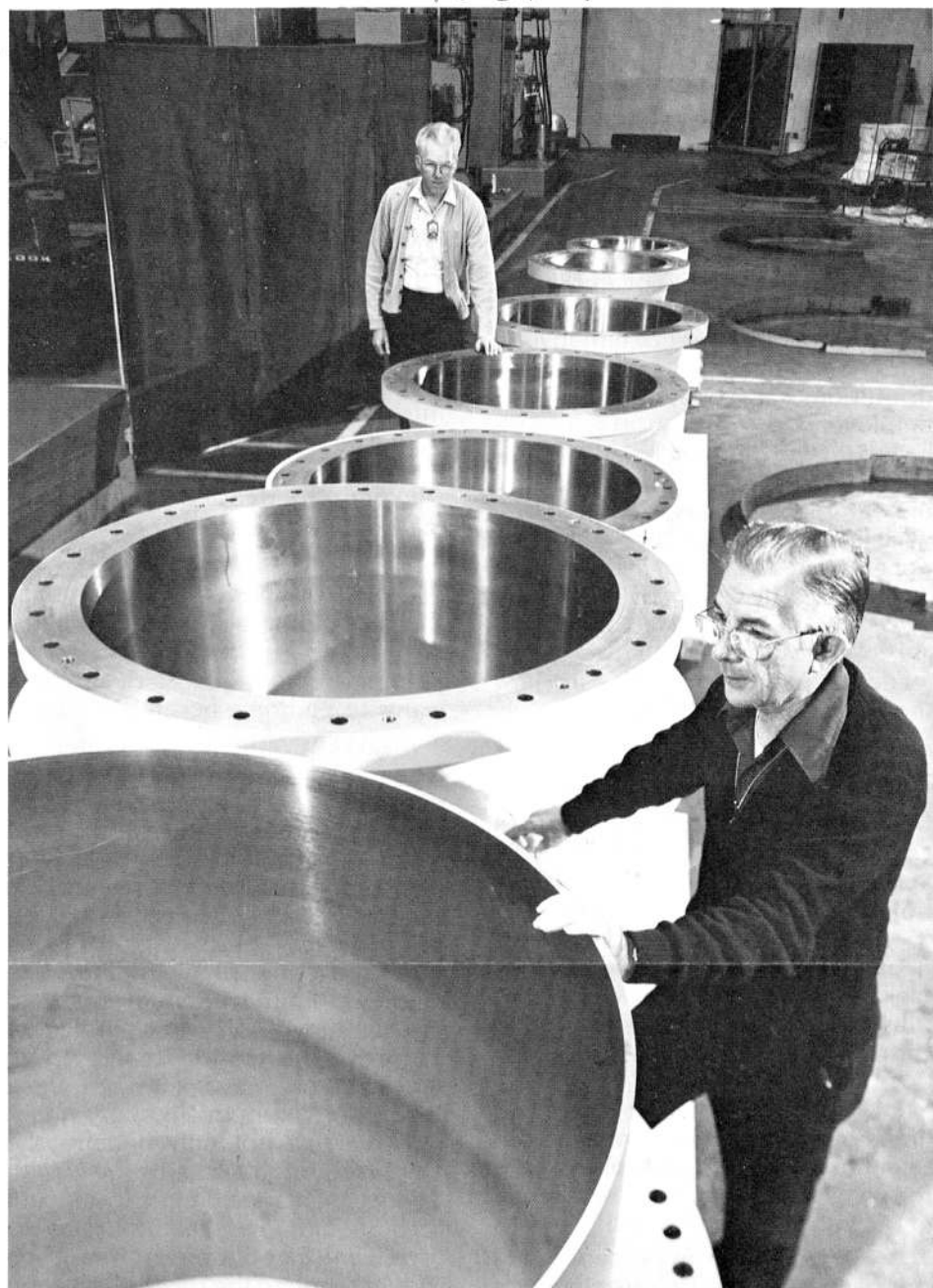


# NUCLEAR DIVISION NEWS

A Newspaper for Employees of the Nuclear Division, Union Carbide Corporation

Vol. 6, No. 24

December 11, 1975



**EXTREME TOLERANCES** — Y-12 Plant machinists L. E. Pate, upper level, and Percy Miller, below, perform a finishing operation with a vertical turret lathe on a Mach-16 wind tunnel section. Machining of the massive steel sections to the extremely tight tolerances required provided an interesting challenge to the plant's Fabrication Division.

## Social Security base goes up again

Your Social Security total payment is going up next year. Effective January 1, 1976, you will be paying 5.85 percent (the same you pay this year) on a new base of \$15,300 (instead of the \$14,100 you are paying presently.)

The Department of Health, Education and Welfare announced the increase following the eight percent increase in benefits gained this year by Social Security beneficiaries. Recipients may earn \$2,520 without affecting benefits. The automatic 1976 increase raises the exempt income figures to \$2,760. For every \$1 of earnings over \$2,760 benefits will be reduced by 50 cents.

Employees paying the maximum Social Security will have \$895.05 deducted from their pay, which is, by law, matched by the employer.

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### CHRISTMAS HOLIDAYS

A change in Christmas holidays for all Nuclear Division employees will give everyone a four-day weekend for the holidays. Instead of observing Christmas Eve this year, we will have Thursday and Friday, December 25 and 26 as official days off.

## Wind tunnel nozzle parts made in Y-12 and PGDP

The Oak Ridge Y-12 Plant and Paducah Gaseous Diffusion Plant have made the components for a wind tunnel nozzle designed to test aeronautical vehicles at a velocity of more than 16 times the speed of sound.

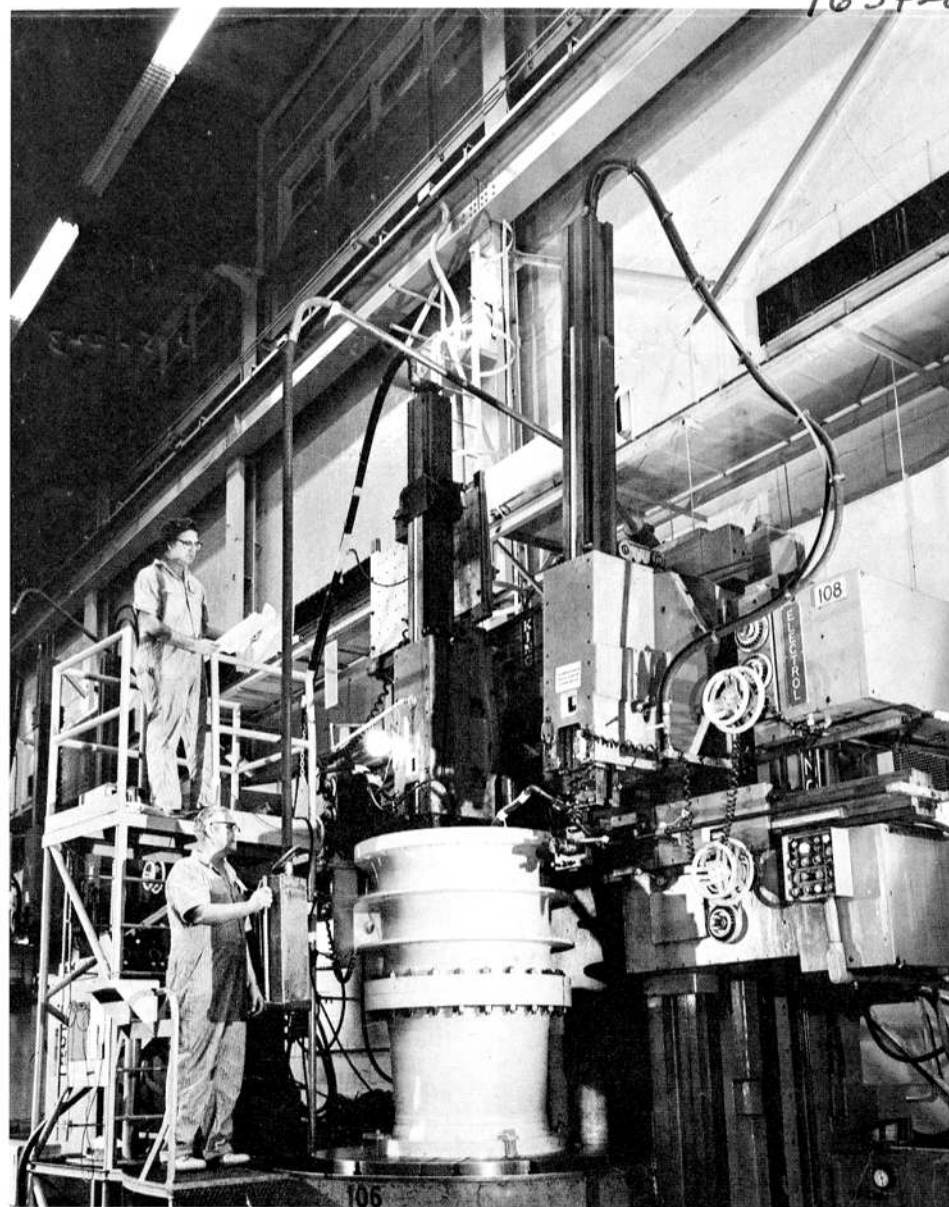
The Mach-16 wind tunnel sections were made under contract with the U.S. Air Force for the Arnold Engineering Development Center, operated by ARO Inc., at Tullahoma, Tenn. The Paducah Plant performed the metal preparation and weldments, while the Y-12 Plant was selected to do the machining and inspection operations because of its unique fabrication facilities. Both installations are operated by Union Carbide Corporation's Nuclear Division for the U.S. Energy Research and Development Administration.

When assembled, the wind tunnel will consist of 12 steel sections with an overall length of 30 feet. The air chamber is in the form of a cubic

curve, having an inside diameter of only a few inches at the entrance end and increasing to four feet in diameter at the exit end.

Job specifications required that the inside contour of the tunnel have a mirror-smooth, micro-finish and a surface waviness of less than 1.6 mils per inch — meaning that within any inch of length along the surface a peak or valley of .0016-inch is not allowed. A perfect match-up at the section joints is required to prevent turbulence when the tunnel is operated at the 6,000 miles per hour velocity.

Project engineer for the job was M. C. Wiest of Y-12 Plant's Product Engineering and Scheduling Division. Supervising the machining operation was assistant general foreman Jesse E. Johnston of Fabrication Division. Critical machining operations were performed by Y-12 machinists L. E. Pate, Percy Miller, Roy E. Lyles and James H. Moore.



**WIND TUNNEL COMPONENTS** — Components for a Mach-16 wind tunnel, made by the Y-12 Plant and Paducah Gaseous Diffusion Plant for the Arnold Engineering Development Center at Tullahoma, Tenn., are examined by assistant general foreman Jesse E. Johnston, foreground, and project engineer M. C. Wiest at left rear.



## Many Division employees mark year-end retirements



O. C. Fugate

C. E. Hood



C. Y. Jacobs

A. R. Joiner

Five Oak Ridge Gaseous Diffusion Plant men retire at the end of December, ending 119 years Company service combined.

Oney Fugate, guard department, retires to his 400 Rockwood Street, Rockwood, home. He joined Union Carbide in 1944.

Charles E. Hood, who came to ORGDP in 1945, lives at Route 1, Crossville. He is an operator in the utilities department.

Carl Y. Jacobs lives at Route 5, Harriman. An instrument mechanic in the electrical department, he joined Union Carbide in 1944.

Alvin R. Joiner, a machining supervisor in the machine shop, came to ORGDP in 1948. He lives at 426 Highland Drive, Clinton.

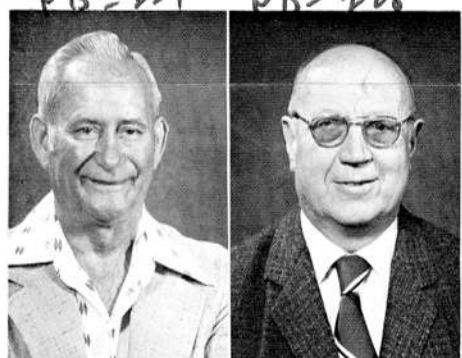
William M. Sproles is a laboratory technician in the metallurgy



W. M. Sproles

department. He lives at 604 Lakeshore Drive, Kingston, and joined Union Carbide in 1945.

James W. Grisard, Forest Road, Oak Ridge, joined Union Carbide in 1945, and retired at the end of November. He was a chemist in materials chemistry.



T. B. Caldwell

H. D. Duncan



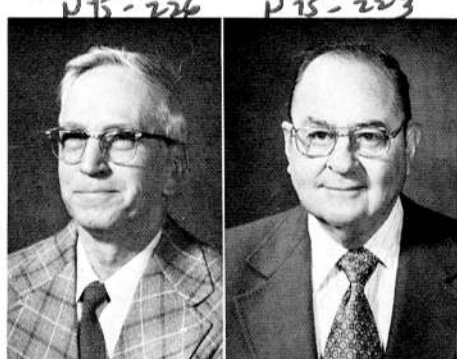
S. F. Durham

R. F. Farmer



A. H. Johnson

T. E. McGinnis



H. V. Mynatt

R. E. Ralston

Harold D. Duncan, mechanical engineering, lives at Route 18, Knoxville. He came to Y-12 in 1944.

Sallie F. Durham, building services, also joined the Y-12 Plant in 1944. She lives at 405 Oakland Street, Knoxville.

Roy F. Famer, utilities administration, lives at 401 Beets Avenue, Clinton. He has been in Y-12 more than 28 years.

Albert H. Johnson, quality control administration, lives at Route 5, Lenoir City. He is a 27-year veteran.

Thomas E. McGinnis, quality evaluation, joined Union Carbide in 1959. He lives at 646 Pennsylvania Avenue, Oak Ridge.

Horace V. Mynatt, area 5 maintenance, leaves with 17 years service. He retires to his 1527 Beaumont Avenue, Knoxville, home.



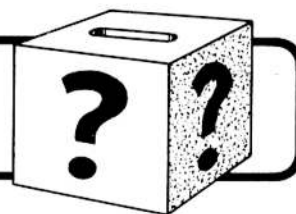
F. L. Rigney

H. V. Tripp

Among the many Y-12 employees retiring at the end of December are the following:

Thurston B. Caldwell, dispatching department, came here in 1948. He lives at 504 Rule Street, Maryville.

## QUESTION BOX



If you have questions on company policy, write the Editor, Nuclear Division News (or telephone your question in, either to the Editor, or to your plant contact). Space limitations may require some editing, but pertinent subject matter will not be omitted. Your name will not be used, and you will be given a personal answer if you so desire.

**QUESTION:** Is there some reason why Union Carbide is not among the many companies that have a matching gift program whereby employees' gifts to approved educational institutions are matched by the employer?

**ANSWER:** The "matching gift" program is in reality a form of employee benefit plan. Because of its somewhat limited application, Carbide has not elected to include it in the benefit "package." The Company does, however, have an extensive program of aid-to-education, in which grants are made directly to schools. In 1975 these grants will total approximately \$735,000.

**QUESTION:** Has any consideration been given to adding liquid crystal watches and digital watches to the 25-anniversary Union Carbide Corporation awards?

**ANSWER:** Yes. Our suppliers have been asked to add this type of timepiece for our award selection. Hopefully this will be accomplished by late spring or early summer of 1976.

**QUESTION:** Have Oak Ridge "4" lines been reduced in number on our telephone lines? I have worked here for years and never had any trouble getting an outside line until lately.

**ANSWER:** The level "4" service has not been decreased. Currently there are 124 trunks serving the three plant sites with an additional 22 trunks for ERDA and downtown UCC-ND facilities. Assuming an average holding time of three minutes, the level of service will accommodate 2,920 calls an hour or 23,360 calls per eight-hour shift.

Russell E. Ralston, SS warehousing and shipping, has been in Y-23 more than 31 years. He lives at 119 Robin Lane, Oak Ridge.

Fitchue L. Rigney, building, grounds and maintenance shops, lives at Route 3, Clinton. He joined Union Carbide in 1955.

Hubert V. Tripp, research services, came here in 1954. He lives at 118 Venus Road, Oak Ridge.



I. L. Pogue

Icie Lee Pogue retired from the Oak Ridge National Laboratory staff

**QUESTION:** In an answer in the Question Box you state "The Tennessee State Highway Department is presently making extensive traffic pattern improvements at the Blair Road and White Wing Road intersections with the Oak Ridge Turnpike." Can you be more specific? It seems the White Wing Road intersection at the "Y" is a change only for the sake of change, and not an improvement.

**ANSWER:** The widening of the bridge at the "Y", redesign of the turning patterns and clear lane markings at both intersections are intended to provide a safer traffic flow. The benefits occurring from the changes will be scrutinized by the City of Oak Ridge and the Tennessee State Highway Department.

**QUESTION:** Is it Company policy that an exempt salaried employee be required to report to Medical when he or she comes into work and then wants to go home because of illness?

**ANSWER:** Although your question is directed at an exempt salaried employee, Company policy is the same regardless of payroll. In most parts of the Division it is not mandatory that an employee report to the Health Center if he/she becomes ill at work and wants to go home. In any such instance the employee should report, of course, to his/her supervisor. Most employees do go to the Health Center under such circumstances if it is open, and a supervisor will normally suggest this. This practice not only benefits the employee but it also aids the Health Center in maintaining current and accurate employee medical records.

Following an illness an employee should report to the Health Center on his/her return if the absence has been for three or more consecutive working days.

Occupational injuries are a different matter, of course, and should be reported to supervision and then to the Health Center as soon as possible.

at the end of November, ending 29 years of service with the Nuclear Division. She was a secretary in the Physics Division; her home is at 167 North Alabama Road, Oak Ridge.

### ORNL CREDIT UNION CHANGES WORK HOURS IN OAK RIDGE OFFICE

Office hours for the Oak Ridge Office of the ORNL Employees Federal Credit Union have been changed during Christmas week to allow employees to be off on the Saturday following Christmas. The office will be open Monday through Wednesday (December 22-24) from 8:30 a.m. to 5:30 p.m., and closed Thursday, Friday and Saturday (December 25-27). Hours at the Knoxville Office will remain the same.



## Division Death

Charles R. Coston, Y-12 general shops, died in a Knoxville hospital November 28.



Mr. Coston

He joined Union Carbide in 1951. A native of Cumberland Co., Mr. Coston worked in sales and as a machinist before coming to Y-12.

Survivors include his wife, Cleo Kemmer Coston; son, Bob Charles Coston; sisters, Anna Green, Maxine Fisher and Beuna Lineberry.

Funeral services were held at the Booth Funeral Home Chapel, with interment in the Oak Grove Cemetery, Rockwood.



## WANTED

### ORGDP

RIDE or WILL JOIN CAR POOL from West Knoxville to Portal 5, straight day. J. F. Perez, plant phone 3-3341, home phone Knoxville 690-3798.

RIDERS or WILL JOIN CAR POOL from Karns to Portal 2, 4 or 5, straight day shift. A Hilton, plant phone 3-9601, home phone Knoxville 690-1178.

WILL JOIN CAR POOL from Gleason Drive, West Knoxville, to Portal 2, 7:45 a.m. - 4:15 p.m. shift. Vic Kane, plant phone 3-3132, home phone Knoxville 690-4850.

### ORNL

Two CAR POOL MEMBERS from East Drive-Outer Drive-California Avenue area, Oak Ridge, to East Portal, 8:15 a.m. shift. J. E. Parham, plant phone 3-0205, home phone 483-6921; or L. C. Templeton, plant phone 3-6652, home phone 483-0492.

## Firewood cutting December 12, 13

Employees who have not stocked their wood piles for the long winter ahead will have another chance to do so on Friday and Saturday, December 12 and 13. According to Dennis Bradburn, Forest Management Program at ORNL, another firewood cutting will be held on the Oak Ridge reservation to provide local citizens with an abundant source of firewood for personal use.

Persons interested should meet at the intersection of the Oak Ridge Turnpike and Highway 58 between 8 and 9:30 a.m. on either day. Permits will be \$5 per day for each individual or family to defray costs of personnel needed to monitor the activity.

Road access will be provided for private vehicles to remove firewood from the reservation after it has been cut. Children under the age of 12 will not be permitted access to the cutting area due to safety regulations.

For additional information, call Bradburn at extension 3-1266.

## NUCLEAR DIVISION NEWS

### UNION CARBIDE

#### UNION CARBIDE CORPORATION NUCLEAR DIVISION

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Ext. .... 3-6421  
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— Member —

#### INTERNATIONAL ASSOCIATION OF BUSINESS COMMUNICATORS

Office  
Post Office Box Y  
Oak Ridge, Tenn. 37830

## NUCLEAR DIVISION SAFETY SCOREBOARD

### Time worked without a lost time accident through December 4:

Paducah	59 Days	550,000 Man-Hours
ORGDP	78 Days	1,625,805 Man-Hours
Laboratory	23 Days	461,730 Man-Hours
Y-12 Plant	66 Days	1,694,000 Man-Hours

## Savings Plan-Personal Investment Account

### Recent unit values:

	Fixed Income Fund	UCC Stock	Equity Investment Fund
August 73	10.0000	34.7688	10.0000
December 73	10.2444	31.8170	9.3602
December 74	11.0438	40.3009	6.4354
May 75	11.4275	63.8335	8.4588
July 75	11.5846	61.4372	8.0111
August 75	11.6655	59.5430	7.7346
October 75	11.8238	58.2720	7.8003

Note: Fixed Income Fund unit values reflect interest additions to achieve the guaranteed effective annual interest rate of 8.55% for 1975. Union Carbide stock values are the average cost of stock purchases during the month plus brokerage charges. Equity Investment Fund unit values represent the month-end market value of securities held by the Fund. Dividing the total value by the number of units in the fund establishes the month's unit value — and the price at which new units are added that month.

## Oil spill simulated at ORGDP

An important part of the Oak Ridge Gaseous Diffusion Plant Spill Prevention Control and Countermeasure Plan is shown in the accompanying photographs. Essential to the plan is the maintenance of the portable equipment seen which is used for the containment and removal of spills from the bodies of water surrounding ORGDP. In order to assure that personnel are trained to respond quickly and effectively when conditions exist, emergency drills are scheduled routinely. The series of pictures was made during a simulation of an oil spill at the K-1407-B holding pond. In this particular drill the emergency crew was able to respond to the call and completely contain the simulated spill within 20 minutes of its discovery.

15-1783



OPERATIONS BEGIN — Minor adjustments are made in the pump to regulate the depth of the skimmer and pumping operations begin.

15-1779



SPILL SURROUNDED — The oil spill is surrounded with a containment boom and a tank truck is positioned to receive the waste oil as it is pumped from the pond.

15-1784



INTO POSITION — The emergency crew maneuvers an oil skimmer pump into position in preparation to remove the oil from the surface of the pond.



## Robertsville

*'The family circle had been broken and could never be the same'*

by JAMES A. YOUNG

(Third in a series on the pre-Oak Ridge area. Stories on two communities, Wheat and Elza, have been printed. The final part of the series will center on the community of Scarboro. The editor would appreciate the loan of old photographs of Scarboro.)

What is now Oak Ridge's center of town, the Downtown area, was known as Robertsville. It centered around three or four stores, a school, some churches, a blacksmith shop that served as a gristmill on weekends, and a cluster of unpretentious, yet comfortable, farm houses.

The territory west of the Clinch River was acquired for homesteading in 1798 by a treaty between the government and the Cherokee tribes. The land extended from the Clinch, west to the crest of Walden's Ridge. (Many "old-timers" claim ancestral ties before that date, but if early pioneers were in the Oak Ridge area, they were trespassing on Cherokee land.)

Settled in 1804 by Collins Roberts, Robertsville yielded its flat lands to the eager farmers. A "man of goodly means," Roberts' name can be found scattered throughout Anderson County history in title exchanges, mortgages, slave sales, etc. He received a land grant totaling some 4,000 acres, which encompasses land from Tadlock's Chapel (where the American Red Cross Building sits on the Turnpike) to the west, along the present Turnpike to below Grove Center.

### Well-known legend

Roberts left an interesting legend behind. Foreseeing the Civil War and the eventual freeing of slaves, he shed the title of slaveholder and returned from Georgia with \$20,000 in gold coin, which subsequently was hidden. (You guessed it, it has never been found ... despite divining rods, fortune-tellers, prowlers, and even a few barn-burnings thrown in.) Yet the legend persists and poses an interesting question: Does Grove Center or the Downtown area hide \$20,000 in gold coin in its soil?

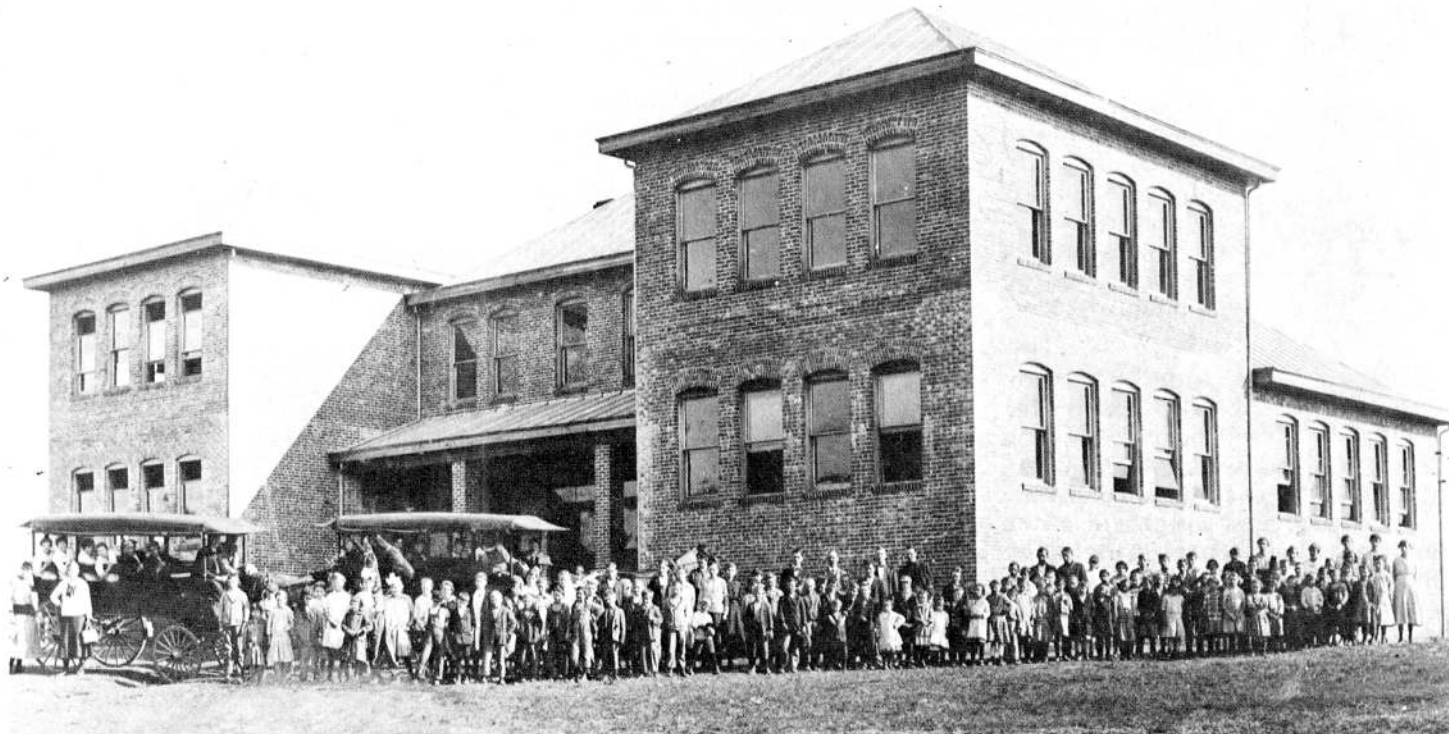
Collins Roberts' son, James C., became Robertsville's first postmaster.

As Cumberland Gap opened, the gates to the West were promises to the on-pushing settlers, fresh from Europe and expanding their visions beyond Virginia and the eastern coastal area. The Tadlocks, Croziers, Pecks, Hightowers, Fosters, McWanes, Olivers, Reeds, Davidsons, Noels and Boyds poured into the lush Tennessee valleys to work its virgin soil.

### Ample records

Hugh McWane operated a sawmill during the week and turned his enterprise to grinding corn into meal on the weekends. Farmers brought their bounty in, left a "toll" for grinding, and returned with corn meal, a staple in the early Tennessee diet.

Census records, militia tax rolls and road service lists show a steady



**COMMUNITY'S HUB** — Robertsville High School served as the village's center during its brief 28 years of existence. Ernest V. Hendrix served as the school's first principal and was responsible for the school's accreditation. His son, Ernest L., is a surgeon in Oak Ridge. It is interesting to note the students' mode of transportation in the photograph.

increase in the area's population into the late 1870s and 1880s ... then a leveling off. (Road service was compulsory to all land owners. They could either volunteer their own labor on the road crews, or hire it done. This practice was continued in the area into the late 1930s.)

The isolated community, like the others in the area, was settled by a fiercely independent band of people. Arnold Toynbee described them as the last of the "live and let live" people on earth. (One retired Union Carbide employee writes from Florida: "Please include in your stories the heartache, the misery and sacrifice we knew in giving up land we loved. Sure, we were all America-loving people. But we were uprooted from our church, community and homes. We had spent a lifetime of hard labor providing our needs and wants.")

### Forced out again

Some of the residents forced to leave in that fateful 1942 survey had been previously evicted by the Government from land owned to the north in the Norris Dam basin, and to the east in the Great Smoky Mountain Park area. It, indeed, was a disheartening fact to resettle in Anderson County only to be re-evicted from their lands again in less than a decade.

Robertsville High School was built in 1914-15 and immediately became the community's hub. Around it evolved the village's activities such as Christmas pageants, pie-suppers and other socials. People didn't travel much; a few young men went out in World War I, and a great many more ventured into parts of the world nobody had heard of in World War II — Guadalcanal, the Solomons, Salerno and others.

### Community centers

Copeland's Store (owned and operated by Nash Copeland, who now owns Copeland Auto Supply in Grove Center) was on the present Turnpike, about where a service station is located today. A brother, Glen, operated the store at Elza.

The Cross Springs, which feeds water to the Oak Ridge community swimming pool and surely must boast the world's coldest water, was a welcome oasis to travelers in the earlier years. Sojourners through the country stopped for its cool water and oak shade. It was a break in the long journey between Clinton and Oliver Springs or Kingston. (If the tourist went westward toward Kingston, he passed through Wheat, crossing Clinch River at Gallaher's Ferry, operated by Arthur Crozier, Revolutionary veteran and well-known resident.) The Cross home remained long after Oak Ridge was established and served as the American Legion headquarters, adjacent to the Grove Theater in Grove Center. Lula Belle Justice, a former mail carrier and chauffeur in Y-12, was married on the front porch of the Cross home. She and Andy still live on their nearby farm outside Oliver Springs.

### Abolitionist sentiments

Although Collins Roberts owned slaves, most of the area's sentiment

was against the practice. Walden's Ridge, forming one of the natural boundaries for the Oak Ridge basin, had an established trail along its crest for runaway slaves who hid by day and sought the "Northern Star" by night. It also camped Union sympathizers during the war years, as they fled into Kentucky and Ohio to evade conscription into Confederate service. The area boasted far more Union veterans than it did those who fought for the Southern cause.

### Church a recreation

"Going to church was a form of recreation," writes one ex-resident. "Young people would walk many miles and usually during the fall they would have 'revival time.' All the churches would combine for one 'great campaign for souls.' The Baptist minister would preach in the Methodist Church and vice-versa. Denominations were left out. The rural roads were filled with the young and old making their way to the revivals. The young men, looking for

(Please see page 5)



**COUNTRY STORE** — The Nash Copeland Store is seen in a pre-Oak Ridge picture as community residents gather late in the afternoon to pass the time of day. Seated in front of the gas tank is one of the area's better known residents, "Uncle Billy" Hightower, who was a well-known minister in Robertsville.





**AREA RESIDENCE** — The Winchester home, located on Kerr Valley Road, where The University of Tennessee Arboretum now sits, was not typical of the Robertsville homes. Most of the houses were two-storied, frame structures similar to those now on Bethel Valley Road near Oak Ridge Memorial Gardens. Those homes, relics of the past, were more typical of the area. Actually all were pre-Oak Ridge structures, some of them having been moved to their present locations.

## The Robertsville story

(Continued from page 4)

a pretty girl to walk home, found many of their life companions along this route."

Although farming was the chief occupation in the area, some of the men worked in the coal mines on the Cumberland Mountains, getting home about every two weeks for visits with their families.

A typhoid epidemic hit the community in the early 1900s, taking a toll in life from both young and old. The area's cemeteries shelter many of these victims, along with earlier victims of "consumption," the area's dreaded name for tuberculosis.

### Peaceful people

"Crime was almost unknown in the valley," relates Harley Law, a Y-12 employee who grew up in Robertsville. "The folks were too busy making a living to get into anything like that. We never locked our doors, even when we were away from home. There wasn't any reason to. These people were good, God-fearing people, who minded their own business, unless a neighbor got in trouble with illness or a burned-down barn or something. Then his problems became their own."

The present Robertsville Junior High School still uses the old auditorium as a gymnasium. Nearby rests Collins Roberts, many of his descendants and other of these kindly people.

"As in Robertsville, they quickly made new friends and were soon about their usual way of helping others," writes Grace Crawford, another Robertsville native, in relating the story of a relative. "But the family circle before Oak Ridge had been broken and could never be the same again. Many letters were exchanged from place to place for a while, but as time passed they became less frequent and people lost touch with their neighbors and friends of yesteryear. If you would ask each family that left this little spot of

earth they now call the Great Atomic City of Oak Ridge, they would tell you that before Oak Ridge it was not a little 'spot of earth,' it was a 'little spot of Heaven.'"



## Tree trimming



A few helpful hints in trimming the Yule tree may provide that margin of safety to make your home a safe one:

Bring in a fresh tree. Cut it off at an angle one inch above the original cut. Set it in water to reduce flammability.

Support your tree well. Place it away from sources of heat such as fireplaces and television sets. Place the tree where standing or fallen it would not block an exit.

Use a stepladder for Christmas tree trimming and other climbing, not a chair or makeshift arrangement.

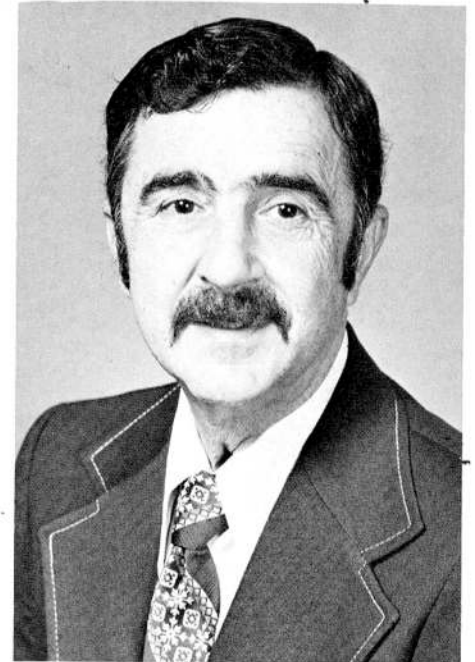
## ORGDP names coordinator to hear employee problems

An employee relations coordinator has been named at the Oak Ridge Gaseous Diffusion Plant. The new position has been designed to identify job-related problems in the salaried community at ORGDP and to seek equitable resolutions promptly.

The pilot program is a positive step toward assuring fair treatment of employees and will strive to further develop the plant's human resources and open lines of communication among employees division by division. The employee relations coordinator is accessible to any weekly or monthly salaried person at ORGDP. Wages, job recognition, distribution of duties, and any other job-related matter will be discussed with the employee.

"This is not the same as our Affirmative Action Program," Joseph J. Vogt, employee relations division manager, explained. "This program includes all salaried employees, not merely minorities. It will hopefully serve as a sounding board between management and those who may have difficulty communicating with their supervisor or fellow employees. Confidentiality will be respected, of course."

Heading the program is Thomas E. Zava, a long-time ORGDP employee.



Thomas E. Zava

He joined the force in 1946 and has been involved in barrier quality control and served in the barrier and materials evaluation department of the Laboratory Division.

He holds a B.S. degree from the University of Richmond and has done graduate work at UT in industrial management.

Zava lives at 132 Normandy Road, Oak Ridge. His wife is the former Sybil Royster. They have two sons and a daughter. Their daughter, Andrea, is in Y-12's Development Division.

The employee relations coordinator is located in Trailer K-1560-E, and the telephone extension is 3-3021.

"For the program to succeed, people in the salaried community must come forward if they have a problem," Zava stated. "We are here to serve. I hope we can be of some help in finding solutions, and we certainly will listen to all problems."

## Holiday hazards threaten children in unsafe playthings

"Christmas is coming, the goose is getting fat!"

That's not all, either. Emergency rooms and fire departments throughout the country are bracing themselves for the rush of holiday accidents.

According to the U.S. Consumer Product Safety Commission, approximately 150,000 children received emergency-room treatment for injuries associated with toys.

When choosing that toy, you might remember:

- The child's age, interests and skill level. Toys which may be safe for older children can be extremely dangerous in the hands of the little ones.
- Look for quality of design and contribution in toys for all ages. Broken toys of poor design can expose dangerous pins, knife-sharp points and edges which can cut young ones. Toxic paints

should also be of prime concern when evaluating a toy.

- Tiny toys and toys with small removable parts can be swallowed or become lodged in windpipes, ears or noses.
- Toys such as darts, toy airplanes, arrows are projectiles which have the potential to be weapons and have particularly injurious effects to the eyes.
- Electric toys must be properly designed to prevent shock or burn. Children should be taught to use electric toys cautiously.

Remember, careful toy selection and proper supervision of children at play are — and will always be — the only way to prevent these injuries.

There are a million and one other things to remember during the coming holidays ... overexertion, over-indulgence, safe decorations in the home, etc.

Make sure your happy holidays are safe ones. Those are the best kind.

The next issue will be dated December 24. The deadline is December 17.



# Seivers' son selected on All-American squad



The selection of Larry Seivers, wide receiver for The University of Tennessee Volunteers, to the Associated Press All-America football team has been a special thrill to many Nuclear Division employees because Larry is a local boy from Clinton whose family is well known in Anderson County.

Larry's father is James M. (Jiggs) Seivers, employment department head at the Oak Ridge Y-12 Plant. Jiggs was an outstanding athlete in Clinton not too many years ago, lettering in football and basketball. Larry's mother, Mrs. Frankie Seivers, is employed at ORTEC in Oak Ridge. His sister, Mrs. Lana Yarbrough, is a teacher in the Oak Ridge city school system.

Larry, a graduate of Clinton High School, led the Southeastern Conference this year in pass receiving with 39 receptions for 826 yards (through Nov. 29), despite missing some mid-season action due to an injury. Many of his receptions were the long-gaining, spectacular kind, usually with two or three defensive players hanging on his arms. Since he is only a junior, fans will be looking forward to his return to action next season.

He was scheduled to travel to New York this week for the taping of a network television program to be emceed by Bob Hope. The time and date of the program probably will be announced in local newspapers.

Since being named to the AP team, he also has been named to the Football Writers of America All-America team.

## RECREATIONOTES



### Y-12 BOWLING

The Rounders keep a small lead in the C League, ahead of the Sun-flowers and Kingpins. Bill Ladd, Edd Sise and John Patton hold series highs so far, rolling scratch scores of 666, 636 and 623 respectively.

The Classic League sees the Ridgers ahead of the Rebels by one slim game. High singles games thus far in the league go to Del Ducay, 259; Joe Morgan and Ken Valentine, both with 256.

The Mixed League, finishing up first half rollings this week, has the Rollers still out front by a game and a half. The second-ranked Goofers hold high series with a 2449 handicap total on the boards.

### BASKETBALL LEAGUES

Monday, January 5, marks the opening day for Carbide Basketball Leagues in Oak Ridge. Action in the two-league competition will involve about 20 teams. Floor action will be at the Oak Ridge High School Gymnasium.

### ORNL BOWLING

The C League had a real match recently as the Damagers and Pin Heads matched scores of 3023 and 3073! The Remkeys still hold a lock on first place ... more than 29 points ahead of the Damagers. The Pin

Heads' N.W. Hill rolled a series of 662 in mid-November.

The Oops team is a mere two games ahead of the Challengers, as the two teams lengthen their leads over other teams in the 10-team race. Del Ducay and John Patton tied for top honors in November 21 rolling, each with 584 scratch series.

The Mousechasers still hold a 10-point lead in the ORNL Ladies League, out front of the Spinners. Brena Stevens scratch rolling of 226 in a singleton, and 549 in series topped bowlers in November.

### ORGDP BOWLING

The Wednesday League sees the Amps in first place, with the Sues Sooners, Demons and Hi Rollers all locked into second place in a tie. Jim Springs rolled a 248 game, and John Peer put a good 663 series up in lights recently.

The Tuesday League still belongs to the All Stars, 11 in front of the City Slickers. The All Stars' L. Owens gleaned all honors recently, posting a game of 228 scratch, 254 handicap; series of 588 and 666!

The ORGDP Women's League gave Helen Hobson honors recently, as she posted games of 164, 189 and 158 for a total of 511, 604 handicap. The lead still is held by the Payoffs, more than nine in front of the Uptowners.

## Christmas

### PARTIES EXPANDED

Due to an unprecedented demand and to accommodate those employees who cannot bring their children to the four parties set during the day of December 23, an additional one has been set for 5 p.m.

Those already holding other times may wish to exchange their tickets and may do so while the supply lasts. Call the Recreation Office, extension 3-5833.



### Application for Tickets To Oak Ridge Christmas Parties FOR CHILDREN OF UNION CARBIDE EMPLOYEES (AGES TWO-10 ONLY) TUESDAY, DECEMBER 23

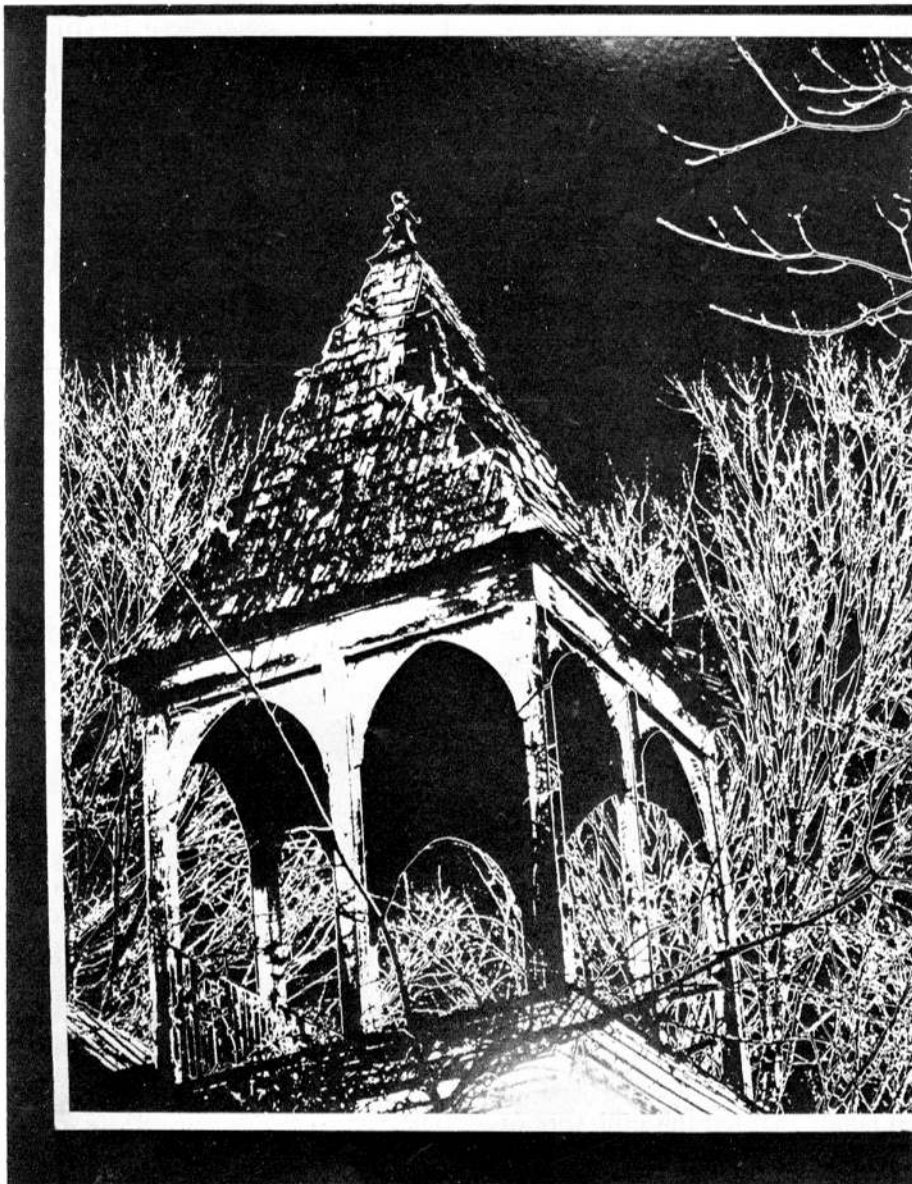
Plant .....  
Employee's Name ..... Badge No.....  
Home Address .....  
Plant Address .....  
Number of Tickets (Children) .....  
Number of Tickets (Adults) .....

#### — CHECK TIME PREFERRED —

Tuesday, December 23 9 A.M. .... 11 A.M. .... 1 P.M. ....  
3 P.M. .... 5 P.M. ....

Please check first and second choice (write in space "1" or "2") as only a limited number of tickets will be issued for each party. Preference will be given early applicants and if tickets for first choice are exhausted, tickets for second choice will be issued.

Return this form, properly and completely filled in, to the Carbide Recreation Office, Building 9711-5 Stop 1, Y-12 Plant. Please apply for tickets before December 18. The required number of tickets will then be mailed to parents at their home or plant addresses.



THE STEEPLE — Second place in the Carbide Camera Club Salon went to Tom Maxwell, ORNL, for this graphic portrait of a steeple. The photographs were on display at the Oak Ridge Art Center during November.





## The Medicine Chest

by T. A. Lincoln, M.D.

(Editor's Note: Dr. Lincoln alternates his regular column with "The Medicine Chest," where he answers questions from employees concerning health in general. Questions are handled in strict confidence, as they are handled in our Question Box. Just address your question to "Medicine Chest," NUCLEAR DIVISION NEWS, Building 9704-2, Stop 20, Y-12, or call the news editor in your plant, and give him your question on the telephone.)

**QUESTION:** "I have heard that it is now possible to inject a ruptured disk with an enzyme. Does it work?"

**ANSWER:** The first reports of enzyme dissolution of a ruptured disk appeared in 1964. Like many new medical techniques, its development and acceptance have been slow because it has problems. The material used is chymopapain, a proteolytic enzyme obtained from the latex of the tropical tree, *Carica papaya*.

The intervertebral disk is a laminated fibrous ring which surrounds a gelatinous-like material called the nucleus pulposus. When the disk ruptures, the nucleus usually herniates or extrudes posteriorly into the spinal canal. For this reason, this condition is called herniated nucleus pulposus (HNP).

The pain, muscular weakness and atrophy, loss of sensation in the skin and loss of reflexes are caused by pressure on the spinal cord or adjacent spinal nerve roots. The most common location for an HNP is either the fourth or fifth lumbar disk in the low back. At this location, it causes sciatica and severe back pain.

### Injection procedure

When a disk is injected, either general or local anesthesia may be used. The patient lies on his left side on a specially-equipped X-ray table. A large bore needle is carefully inserted into the disk, its course guided through the use of biplanar fluoroscopy. Great care must be used to be certain the needle gets into the center of the disk.

Even though an image intensifier is used, the staff must wear special lead aprons under their surgical gowns to prevent unacceptable radiation exposure. A special 50-centimeter-long plastic tube is used to inject either contrast media or the enzyme, in order to keep the surgeon's hands out of the radiation field. The radiation exposure to the patient is of less concern since he only has the procedure done once.

A radiopaque fluid is injected first to obtain a diskogram, to be certain the needle is correctly placed. About six to eight milligrams of chymopapain is then injected into the disk. This enzyme dissolves certain proteins, thus grossly softening the nucleus and apparently causing the ruptured portion to recede. X-ray films taken several months later show narrowing of the disk space.

### Results in doubt

The results of this procedure, as with back surgery, aren't too impressive. At least one well-known orthopedic surgeon in Washington, D.C., claims that 50 percent of

patients with an HNP will recover and be functional within six months even though no surgery or injection is performed. It is for this reason that most orthopedists are conservative and do not recommend surgery until a prolonged period of rest, traction, training in back care and exercises have been tried. Even then, if there is no evidence of progressive nerve damage, conservative care may be the safest.

Potentially dangerous allergic reactions to the enzyme occur in almost one percent of cases. In about one out of four patients, the chymopapain leaks out of the disk, invading nearby tissues. The hazard of this leakage is a source of much dispute, but until more long-term studies are done it is a reason to be cautious. One has to realize that proponents of a new technique have to be salesmen in order to get it accepted. Usually their over-enthusiasm is eventually balanced by the overconservatism of the majority, and a new technique finally finds its proper place in the medical armamentarium.

**QUESTION:** "What are 'floaters'?"

**ANSWER:** Most people at some time or other have noted the intrusion of a tiny floating object into the field of vision of one eye. It is seen to float lazily away when the head is moved or the eye blinked. Most frequently this occurs during reading, when the glossy page of a book reflects a glare back into the eye. These floaters are sometimes seen when a person looks at a white wall, the bright sky or the illuminated field of a microscope.

Floaters are most frequently due to muscae volitantes. These are specks and opacities in the vitreous, a transparent colorless gelatinous material in the posterior cavity of the eye behind the lens. These spots before the eyes are caused by shadows cast upon the retina by the cells normally found in the vitreous. They are of no significance. They are seen more often in people who have refractive errors; if they are a nuisance, they can sometimes be eliminated by a better correction of the refractive error.

Sometimes floaters are the result of diseases of the inside of the eye. These opacities may appear as dots, flakes, threads, or even dust clouds. In older individuals and sometimes in people who are extremely near-sighted, the vitreous may become more fluid, allowing any opacities present to move freely.

People with a fluid vitreous and many opacities can shake their heads and create a dust storm in their eyes.



**ORIGINAL RSIC CODE SECTION** — Members of the original code section of the Radiation Shielding Information Center are shown with Betty Maskewitz, recipient of the ANS's Shielding and Dosimetry Division's outstanding service award. From left, are Jane Gurney, Henrietta Hendrickson, Mrs. Maskewitz, Juanita Wright and Hemma Comolander. There are currently 15 people on the RSIC staff, which is directed by Mrs. Maskewitz.

## ANS honors Betty Maskewitz for radiation shielding work

The Shielding and Dosimetry Division of the American Nuclear Society has presented awards to two of its members for outstanding service. One of the recipients of the award is Betty F. Maskewitz, Neutron Physics Division at Oak Ridge National Laboratory. The other is Marshall Grotenhuis, former Argonne National Laboratory scientist, now with the Nuclear Regulatory Commission.

Mrs. Maskewitz was cited for distinguished service to the Society, the Division and to the radiation transport community worldwide. She was recognized mainly for her efforts in the sharing of computer technology. The citation reads in part, "Her role in developing the concept of the 'open code' whereby a computer code is open to scientific scrutiny, modification, and improvement and then made widely available, and her finding means of implementing this concept through her work at the Radiation Shielding Information Center (RSIC), have materially advanced the state-of-the-art."

### Open codes defined

According to Mrs. Maskewitz, open codes are defined as those which, at some stage of their development, become well-documented, closely scrutinized in their internals by members of the industry at large, widely used and frequently modified by the users, i.e. open to the same critical examination given to any valid scientific information.

The 'open code package' concept is realized when the code developer, the information analysis center, and the user collaborate to assess and improve the state-of-the-art. Posi-

It is much like the old-fashioned hollow glass ball paperweights which had a winter scene set in a transparent fluid. When the ball was shaken, the tiny loose paper particles would swirl about like a snowstorm.

Most people who only rarely see floaters learn to ignore them. Changing the light sometimes helps. When the floaters are large or frequent, it is best to check with an ophthalmologist.

itive feedback and this close inter-relationship results in changes that are reflected in the 'open code package' as updated versions. Dissemination of the packages with a training and consultant service promotes wider usage with consequent feedback to the Center. As long as there is an interest in the problem, the code package continues to grow in use and effectiveness.

### Initiated in 1963

The RSIC codes collection was initiated in early 1963 when Mrs. Maskewitz joined S. Keith Penny and David K. Trubey in founding the specialized center. The original code section staff was comprised of former Oak Ridge Gaseous Diffusion Plant computer personnel: Hemma E. Comolander, Henrietta Hendrickson, Juanita Wright and Jane Gurney. Together this group represents a total of 137 years of company service, mostly connected with the use of computers.

Mrs. Maskewitz credits the award from ANS to members of the RSIC staff, their hard work and commitment to solving problems in successful computer technology transfer to the international radiation transport and shielding community. "Each member of the staff has become widely known for the ability to contribute to the transfer for which RSIC is honored," she said.

Mrs. Maskewitz joined the Nuclear Division in 1952, working first at the Oak Ridge Gaseous Diffusion Plant. In addition to serving as director of RSIC, she is director of the Biomedical and Computer Technology Information Center which was recently established at ORNL.

### PATENTS GRANTED

To John G. Banker and Robert C. Anderson, both of Y-12, for "Method and Apparatus for Fabricating a Composite Structure Consisting of a Filamentary Material in a Metal Matrix."

To David R. Masters and Samuel T. Benton, both of Y-12, for "Method for Preparing Boron-Carbide Articles."



# ASPP honors William Arnold for photosynthesis studies

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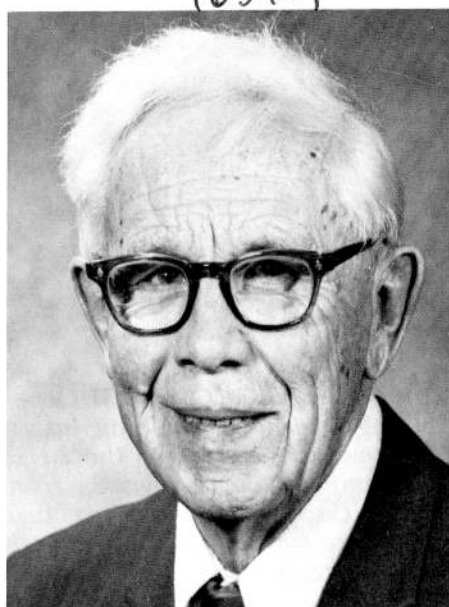
William A. Arnold, a retired member of the ORNL Biology Division staff, has been awarded the Charles Reid Barnes Life Membership Award by the American Society of Plant Physiologists for his career contributions to the understanding of the primary events in photosynthesis.

Photosynthesis is the process by which plants, through the conversion of energy from light, are able to synthesize the chemical compounds necessary for their growth.

The award cites Arnold's principle contributions from his early studies in 1932 to the present and concludes by praising "his application of the rigorous principles of physics to a biological phenomenon, his intrepid manipulation of biological materials, his ability to grasp a problem, frame it in experimental terms and to follow its resolution full course."

Arnold, a native of Douglas, Wyo., earned his B.S. degree at the California Institute of Technology and his Ph.D. degree at Harvard. He was assistant professor of biophysics at the Hopkins Marine Station of Stanford University (where former AEC Chairman Dixy Lee Ray and Biology Division's Stanley Carson were graduate students) and was also at Princeton University and Eastman Kodak. He joined the ORNL staff in 1946.

Throughout his ORNL career he has carried out extensive research in the energy transfer mechanisms involved in photosynthesis and has published numerous papers in this field. Much of the information in his research is now considered standard reference material. He has received the Charles F. Kettering Foundation Research Award in addition to a



William A. Arnold

Kettering Award from the American Society of Plant Physiologists.

He retired in 1970 and has since served as a Biology Division consultant. He resides at 102 Balsam Lane, Oak Ridge.



**PAS DE DEUX** — Melynn Morris and Steve McBride star in the Oak Ridge Civic Ballet Association's Christmas production of Tchaikovsky's "Sleeping Beauty." She is the daughter of A. C. Morris, ORNL's Instrumentation and Controls Division, and he is the son of John P. McBride, ORNL's Chemical Technology Division. Many other Nuclear Division children and employees are involved in the December 19, 20 and 21 performances.

## COMPANY Service

20 25 30

### Y-12 PLANT 30 YEARS

Arville R. Flynn, production assay; Franklin P. Munsey, dispatching; Wallace E. Pierce, building, grounds and maintenance shops; Alva L. Fischer, production services; Charlie C. Bridges, Beta 2 chemistry; William H. Wright, Alpha 5 processing; Clyde A. Cook, fire department; and Louise D. Rogers, Beta 2 assembly.

Carl E. Manis, buildings, grounds and maintenance shops.

### 25 YEARS

Ernest S. Lewis, Arland E. Burger, Gentry R. Ogle, Henderson L. Miller, James J. Crowe, Lendon E. Hart, Oliver B. Harness, Charles F. Laymance, Harley H. Law, Eliga Tilley, William M. Simpson Jr., Thomas E. Hillard, Fred E. Crowder, Charlie H. Crass, Truman H. Coulter, John M. Smith Jr., Bert E. Burdette, Alice W. Hair and Burl R. Price.

### 20 YEARS

Benny H. Samuel, Charles E. Lowe, Donald A. Lanham, Glenn V. Wells, Joseph R. Morton Jr., Robert C. Anderson and Herbert L. Huff.

### ORGDP 30 YEARS

Gladys B. Bayless, Engineering Division; Earl Duff, power and utilities maintenance; Pershing W. Jones, power and utilities maintenance; Leonard T. Franklin, chemical and general field maintenance; Walter H. Henley, fabrication development department; John M. Anderson, administrative services; Hubert S. Amos, chemical and technical maintenance department; Paul W. Harris, traffic, shipping and receiving department; Joe Chambers, building maintenance department; Larry A. Studinger, Plant Superintendent Division; and Robert D. Kitts, TIA barrier manufacturing.

### 25 YEARS

John J. Blankenship, Thomas B. Bomar, Merrival D. Myers, Julius F. Hudson and Lawrence E. Sikes.

### 20 YEARS

Raymond K. King

### PADUCAH 30 YEARS

Musie G. Naive, Plant Superintendent Division.

### 25 YEARS

David M. Dodson.

### 20 YEARS

Marvin E. Byrd.

### GENERAL STAFF 30 YEARS

Lindsey E. Southard, General Accounting Division.

### 20 YEARS

Hugh C. Monger.

### LABORATORY 30 YEARS

Sam P. McCroskey, Biology; Charles J. Coley, Analytical Chemistry; Robin J. Stephens, Employee Relations; Russell S. Jackson, Plant and Equipment, and John M. Davis and Arthur D. Warden Jr., Health Physics.

### 25 YEARS

Harry C. Claiborne, John H. Gann Jr., John B. Brewer, J. O. Castleman Jr., James F. Odom Jr., Howard C. Swann, Ernest L. Ryan, Hugh Binkley, Edward A. Davis, Lorry R. Ruth, William H. Duckworth, James R. Muir, Othar K. Tallent, Almos Alfred Walls, Reginald Gwin, Charles A. Pritchard and Robert G. Niemeyer.

### 20 YEARS

Raymond M. Fuller, Sammie D. Clinton, Billy R. Scarborough, James H. Oxendine, Joe W. Kidd, Charles D. Humphrey, Eugene S. Vaughn, Ananias C. Burger and Helen D. Cook.

## Calendar of EVENTS

### COMMUNITY December 14

Community Art Center Film Club presents: "Simon of the Desert," Luis Bunuel, 1965; "A Day in the Country," Jean Ranour, 1936; "Why Man Creates," Saul Bass. Jefferson Junior High School Auditorium, 5 and 8 p.m. Admission: adults \$1.75; students \$1.

Children's Museum: Anderson County Historical Society will present "The Early Oak Ridge Story," 2 p.m. Admission free.

### December 19-20

Oak Ridge Civic Ballet presents: "Sleeping Beauty," music by Tchaikovsky, choreographed by Leslie Swazee DuChane. Oak Ridge High School Auditorium, 8:15 p.m. Admission: adults \$3; students \$1.50. Additional performance on December 21 at 3:15 p.m.

### December 23

**CHRISTMAS PARTIES:** For all Union Carbide children, ages 2 through 10. Oak Ridge High School Auditorium. 9, 11 a.m.; 1, 3, 5 p.m.



**UNION CARBIDE CORPORATION**  
NUCLEAR DIVISION  
P. O. BOX Y, OAK RIDGE, TENNESSEE 37830

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